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Application Serial No. 10/583,496
Reply to office action of September 30, 2008

PATENT
Docket: CU-4886

Amendments To The Specification

Please replace the paragraph in the specification page 1, line 31 to page 2, line 8 with the following amended paragraph:

Lightning is a constant threat to telecommunications equipment and there is a constant demand for equipment which can provide protection against lightning. To date lightning protection systems have made use of earth-based circuitry. In a number of instances such circuitry has proven not to be effective as lightning found alternative routes via the earth connection of the circuitry to the equipment, thereby causing severe damage. It is therefore envisaged that a demand may exist under users of fixed line telecommunications services for an apparatus which will enable them to determine the working status of their telecommunications lines and that of their telecommunications equipment, while simultaneously providing means for protecting the telecommunications equipment against ~~lighting~~ lightning and power surges.

Please replace the paragraph in the specification page 3, lines 19-20 with the following amended paragraph:

Advantageously the equipment testing circuit includes a ~~lighting~~ lightning protector for protecting the equipment against lightning surges.

Please replace the paragraphs in the specification page 5, line 32 to page 6, line 28 with the following amended paragraphs:

To test whether the telecommunications connection 16 is faulty, a user moves the switch 18 of the telecommunications system indicator and protector 10 to the first position SW1. In the event of the telecommunications connection being in working order, alternating current flows from the telecommunications connection 16 through the switch 18 to the line testing circuit (Block B). In the line testing circuit the alternating current flows through the rectifier 24, closing the AC line testing circuit 20, thereby allowing the rectifier 24 to convert alternating current from the AC line testing circuit 20 to direct current in the DC line testing circuit 22. This provides current to the LED 28, causing it to emit light. If the telecommunications connection 16 is faulty as a result of a line fault in the telecommunications network, ~~[[no]]~~ current flows from the telecommunications connection 16, through. ~~This causes an open a short circuit caused~~ in the AC line testing circuit 20 ~~[[22]]~~, resulting in no current flow in the DC line testing circuit 22. Ultimately the LED 28 does not emit light thereby indicating to a user that there is a problem on the side of the telecommunications service provider.

Moving the switch 18 to its second position SW2 provides a connection between the telecommunications connection 16 and the equipment testing circuit

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(Block A). The equipment testing circuit comprises an AC equipment testing circuit 30 and a DC equipment testing circuit 32. The AC equipment testing circuit 30 includes a ~~lighting~~ lightning protector, generally indicated with the reference 34, provided by a resistor 35 which is connected to a capacitor 36. The capacitor 36 is parallel connected to the equipment testing circuit (Block A) allowing it to protect the circuit from over currents in the form of spikes or surges. The AC equipment testing circuit 30 further comprises a rectifier 38 for converting alternating current in the AC equipment testing circuit 30 to direct current in the DC equipment testing circuit 32. The rectifier 38 is further connected to a resistor 40 for regulating current to the LED 28.

Please replace the paragraph in the specification page 7, lines 16-18 with the following amended paragraph:

Although not shown it is envisaged that a fuse may be incorporated with the resistor 36 such that the ~~lighting~~ lightning protector 34 comprises the resistor 35 and the fuse which in turn is connected to the capacitor 36.

Please replace the paragraphs in the specification page 9, lines 11 to page 10, line 4 with the following amended paragraph:

The line testing circuit 82 comprises an alternating current (AC) circuit 88 and a direct current (DC) circuit 90. A rectifier 92 is provided between these circuits for converting the alternating current of the AC circuit 88 to a direct current which can flow through the DC circuit 90. The DC circuit 90 comprises a resistor 94 which regulates current flowing therein, and an indicator 96, here in the form of a light emitting diode (LED). The AC circuit 88 comprises a lightning protector 98. In this embodiment the ~~lighting~~ lightning protector 98 is provided by a resistor 100 and a capacitor 102, here a 2kV capacitor.

Please replace the paragraph in the specification page 9, line 11 to page 10, line 4 with the following amended paragraphs:

The line testing circuit 82 comprises an alternating current (AC) circuit 88 and a direct current (DC) circuit 90. A rectifier 92 is provided between these circuits for converting the alternating current of the AC circuit 88 to a direct current which can flow through the DC circuit 90. The DC circuit 90 comprises a resistor 94 which regulates current flowing therein, and an indicator 96, here in the form of a light emitting diode (LED). The AC circuit 88 comprises a lightning protector 98. In this embodiment the ~~lighting~~ lightning protector 98 is provided by a resistor 100 and a capacitor 102, here a 2kV capacitor.

Under normal working conditions alternating current flows from the

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telecommunications connection 84 through the AC circuit 88 and through the rectifier 92, closing the AC circuit, thereby allowing the rectifier 92 to convert alternating current from the AC circuit to direct current in the DC circuit 90. This provides current to the LED 96, causing it to emit light thereby indicating to the user that the telecommunications system indicator and protector 80 is in working order and that it can provide protection against ~~lighting~~ lightning surges entering through the telecommunications connection 84.

In the event that ~~lighting~~ lightning strikes a network of the telecommunications service provider such that a lightning surge is conducted to the telecommunications connection 84 such that either the rectifier 92, the capacitor 102 or the LED will be destroyed thereby creating ~~an open~~ a short circuit and preventing any current to flow to either the equipment. It is pointed out that the magnitude of the surge will determine which components will be destroyed. It will be appreciated that when such an event has taken place the dial tone of an incoming line will be removed.

Please replace the paragraph in the specification page 10, lines 17-32 with the following amended paragraph:

Figure 5 shows a fourth embodiment of a telecommunications system indicator and protector 120 of the invention. This embodiment of the invention is similar to the telecommunications system indicator and protector 50 with the exception that the switches 58 and 60 have been removed. The telecommunications system indicator and protector 120 includes a non-earthed equipment testing circuit 122 which is connected to the connecting means 124 such that telecommunication equipment which are connected to the connecting means 124 will be protected against lightning surges coming through a telecommunications line pair 126 and 128 by lightning protectors, provided by capacitors 132 and 134 which will be destroyed to create ~~an open~~ a short circuit before the surge can be conducted to the equipment. The equipment testing circuit 122 also includes rectifiers 136 and 138 and it is pointed out that a large surge entering the line testing circuit will either destroy the capacitors 132 and 134, the rectifiers 136 and 138 or both the capacitors and the rectifiers, thereby preventing the surge from reaching the equipment.